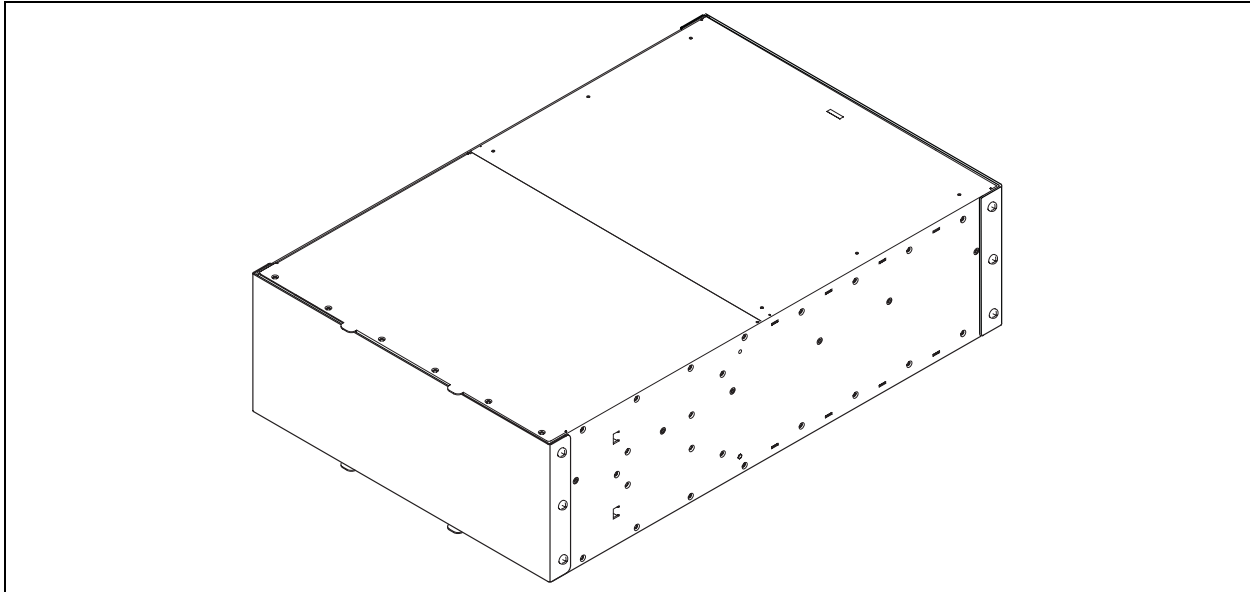


SANbox 9000™ Series Chassis Replacement Guide



1. Chassis with shipping covers

WARNING!!

This guide describes the procedure for one person to replace a SANbox 9000 Series chassis. It involves removing blades while the switch is in the rack, and then removing the empty chassis. Depending on the location of the switch in the rack, it may be easier to remove the populated switch from the rack first. In this case, to avoid injury or damage to the switch, arrange for the help of an assistant when removing or installing a populated switch.

Tools Required

- Crosshead screw driver, medium
 - ESD wrist strap
-

CAUTION!

- Always use an ESD wrist strap when handling and blades and modules.
 - To avoid damage to the I/O blades, CPU blades, Power Supply blades, and Fan blades, do not touch the circuit boards and electrical components.
-



Backup the Switch Configuration

Create a backup of the switch configuration if one does not already exist and upload it from the switch to the management workstation.

Open a Telnet session and enter the Config Backup command to create the file on the switch. Then use FTP to upload it to the management workstation. You can accomplish the same task using the Archive function of the QuickTools interface.

```
Switch login: admin          Telnet
Password: password

Sanbox #> admin start
Sanbox (admin) #> config backup
SANbox (admin) #> exit

=====

ftp <ip_address>          FTP
User: images
Password: images

ftp> binary
ftp> get configdata
ftp> bye
```

Inventory Feature Licenses

Enter the Feature Log command to display the installed feature licenses. Make note of the license keys so that the feature licenses can be installed in the new chassis.

If you have installed license keys, enter the Show Version command and make note of the chassis serial number. You will need this number to request new license keys later.

```
SANbox #> feature log
Mfg Feature Log:
-----
Customer Feature Log:
-----
1) day mon date hh:mm:ss year - Switch Licensed for
HyperStack(tm) capability
200000-LCRXIET7KXSXO

SANbox # > show version
*****
* *
* Command Line Interface SHell (CLISH) *
* *
*****
SystemDescription SANbox 9000 FC Switch
EthNetworkAddress 10.20.11.192 (use 'set setup system
EthMACAddress 00:c0:dd:00:71:ee
WorldWideName 10:00:00:c0:dd:00:71:ed
ChassisSerialNumber FAM033100024
SymbolicName SANbox
ActiveSWVersion V6.2.x.x.xx.xx
ActiveTimestamp day month date time year
DiagnosticsStatus Passed
```

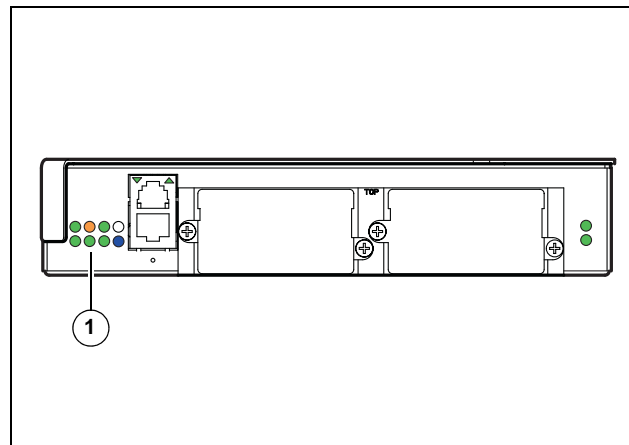
Power Down the Switch

Isolate the switch from the fabric.

Confirm that the primary CPU Heartbeat LED is showing the normal 1 blink per second. This allows the switch to correctly report power supply status.

Move the On/Off switch to the Off position on both Power Supply blades.

Unfasten the restraint bails from the plugs, and unplug the power cords from both Power Supply blades.



1. Heartbeat LED

Disconnect Ethernet and Serial Cables

Disconnect Ethernet cables from CPU blades and the Maintenance Panel.

Disconnect HyperStacking cables from the CPU blades.

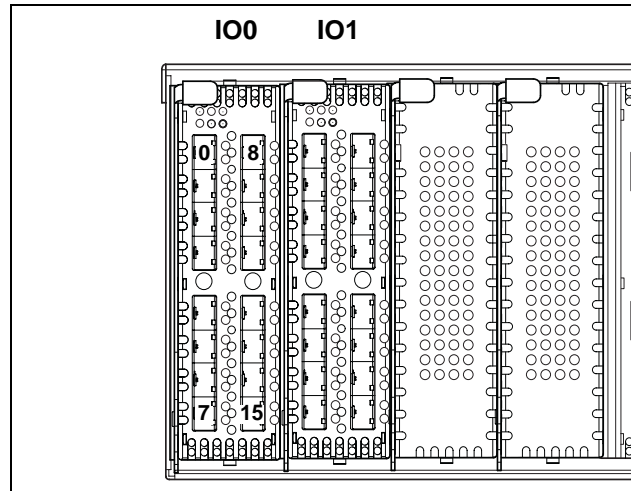
Disconnect Fibre Channel Port Cables

Label I/O blades by slot number. I/O blade slots are numbered IO0–IO7.

Label Fibre Channel port cables by slot number and port number.

- 4-Gbps I/O blade ports are numbered 0–15 from top to bottom, left to right.
- 10-Gbps I/O blade ports are numbered 0–4, top to bottom, left to right.

Disconnect Fibre Channel port cables.

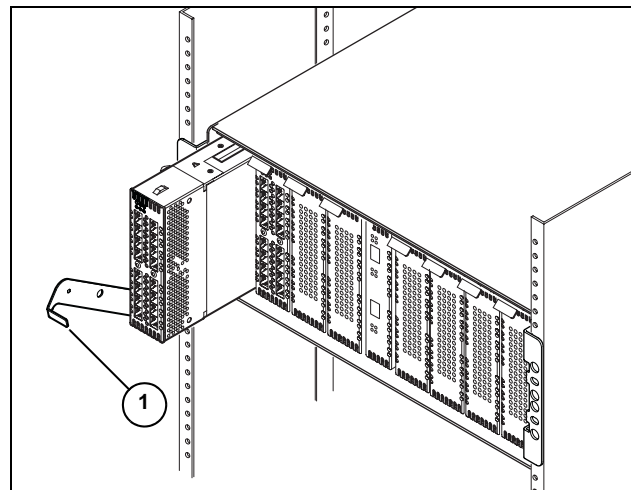


Remove I/O Blades

Connect an ESD wrist strap to a ground point on the rack.

Rotate the I/O blade latch to the full open position. Pull the I/O blade by the latch to disengage the I/O blade from the midplane. Carefully slide the I/O blade out of the chassis.

Remove I/O blade panels in the same way.



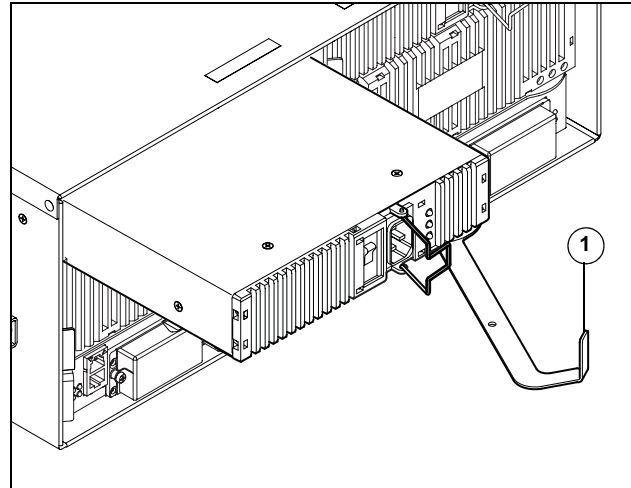
1. Latch, IO0 blade

Remove Power Supply Blades

WARNING!!

The Power Supply blade faceplate and internal surfaces can become very hot. Handle with care.

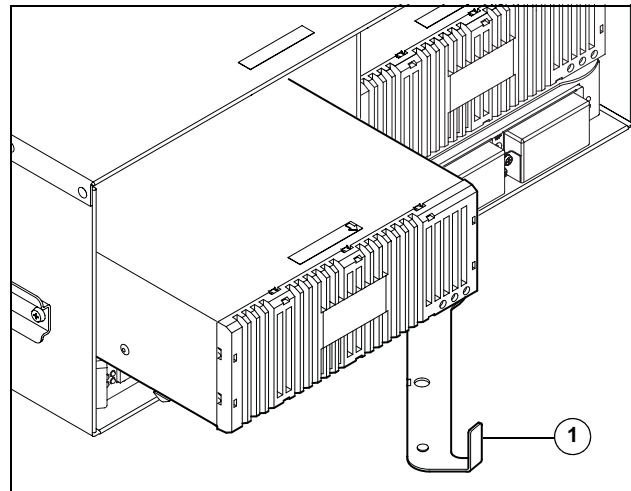
Rotate the latch to the full open position. Pull the Power Supply blade by the latch to disengage the blade from the midplane connector. Carefully slide the Power Supply blade out of the chassis.



1. Latch, PS0 blade

Remove the Fan Blades

Rotate the latch to the full open position. Pull the Fan blade by the latch to disengage the blade from the midplane connector. Carefully slide the Fan blade from the chassis.

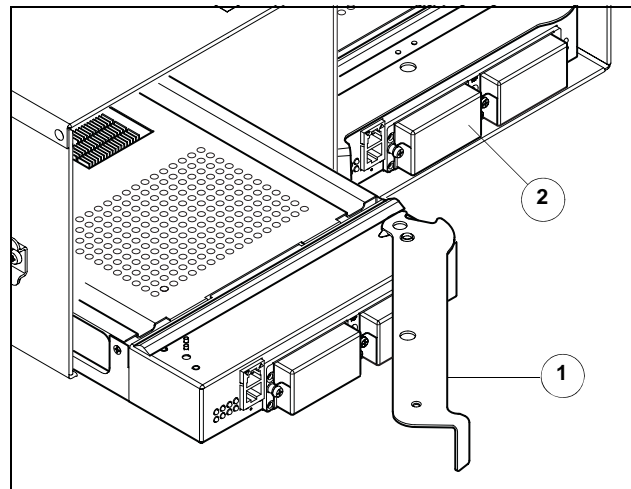


1. Latch, FAN0 blade

Remove CPU Blades

Label the CPU blades, CPU0 and CPU1.

Rotate the latch to the full open position. Pull the CPU blade by the latch to disengage the blade from the midplane as shown.



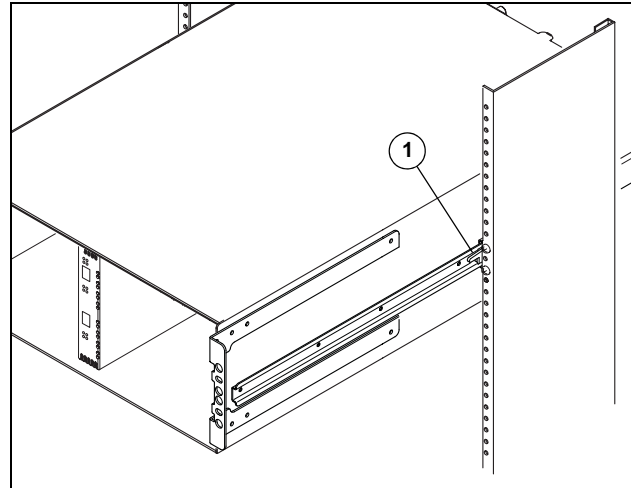
1. Latch, CPU0 blade 2. CPU1 blade

Remove Chassis from the Rack

Using a crosshead screw driver, remove the screws that secure the chassis to the rack. Slide the chassis out of the rack.

Slide the chassis out of the cabinet until the rail latches drop down to stop the chassis. Lift up on the latches on both sides and finish removing the empty chassis.

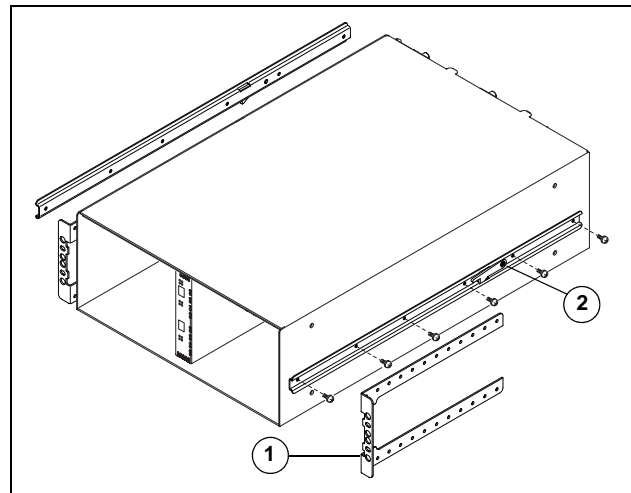
If you have installed license keys, make note of the chassis serial number. You will need this number to obtain new license keys later.



1. Latch

Remove Brackets and Rails

Make a note of the location and orientation of the brackets and the rails. Remove the brackets and rails from the chassis and set them aside along with the screws. You will install them on the new chassis.



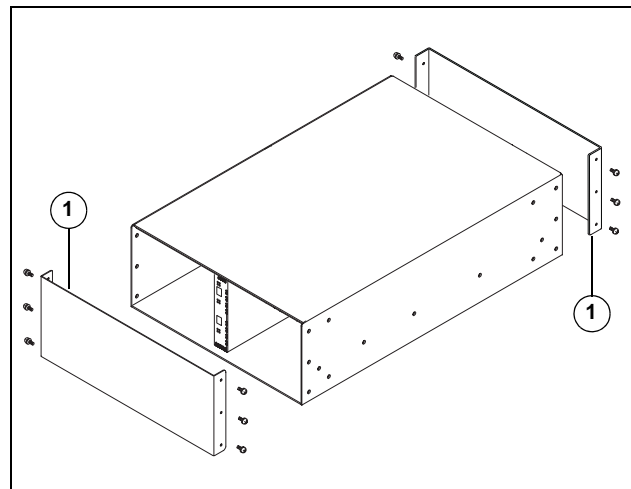
1. Bracket

2. Rail

Prepare the New Chassis

Remove the shipping covers from the ends of the new chassis. Each cover is secured with six screws, three on each side.

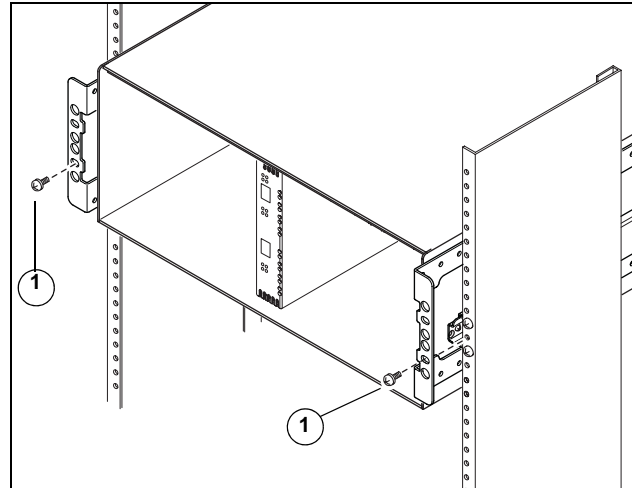
Install the brackets and the rails on the new chassis as they were installed on the old chassis.



1. Covers

Install New Chassis in the Rack

Slide the new chassis into the cabinet rails. Fasten the switch rails to the cabinet rails with two screws.



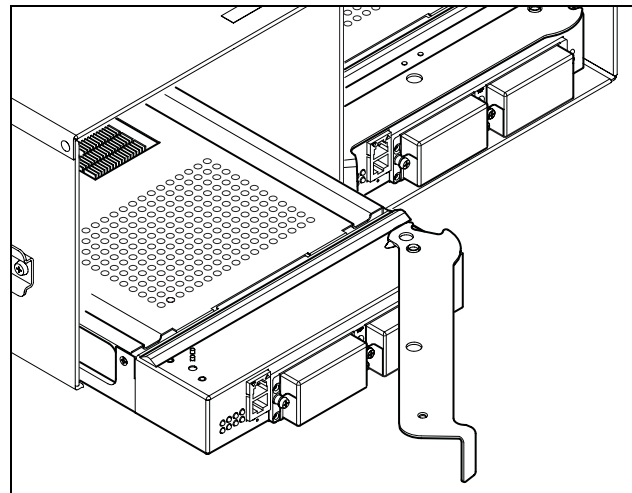
1. Screws

Reinstall CPU Blades

Install the CPU blades in slots CPU0 and CPU1 of the new chassis according to the labels on the CPU blades.

Open the CPU blade latch and slide the CPU blade into the chassis until it makes contact with the midplane connector.

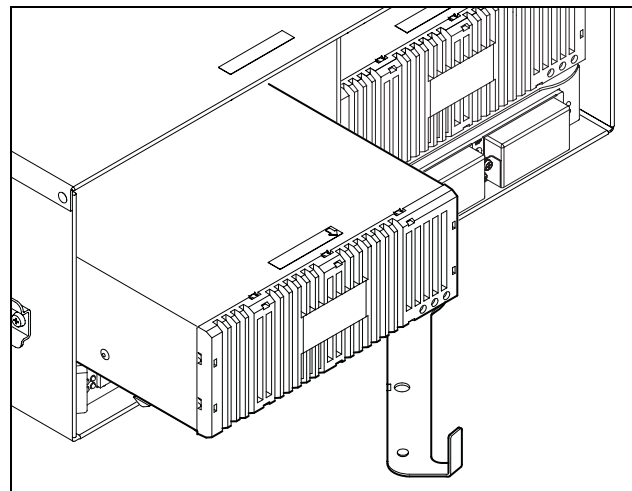
Rotate the latch to lock the CPU blade in place.



Reinstall Fan Blades

Open the Fan blade latch and slide the blade into the chassis until it contacts the midplane connector.

Rotate the latch right-to-left to lock the Fan blade in place.



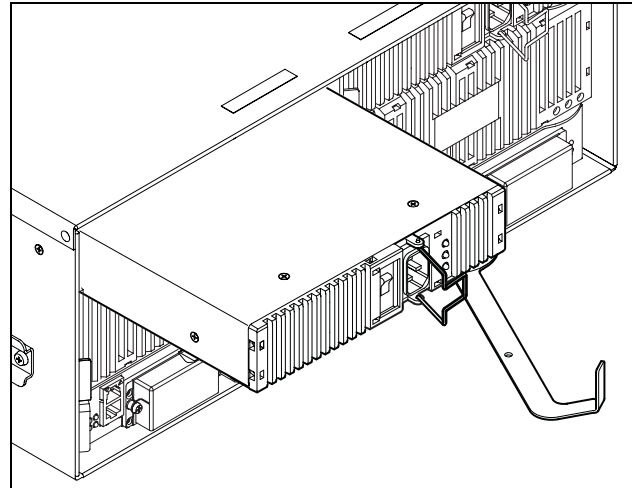
Reinstall Power Supply Blades

NOTE

Power Supply blade installation is easier when installed after the Fan blade below it.

Open the Power Supply blade latch and slide the blade into the chassis until it contacts the midplane connector.

Rotate the latch right-to-left to lock the Power Supply blade in place.

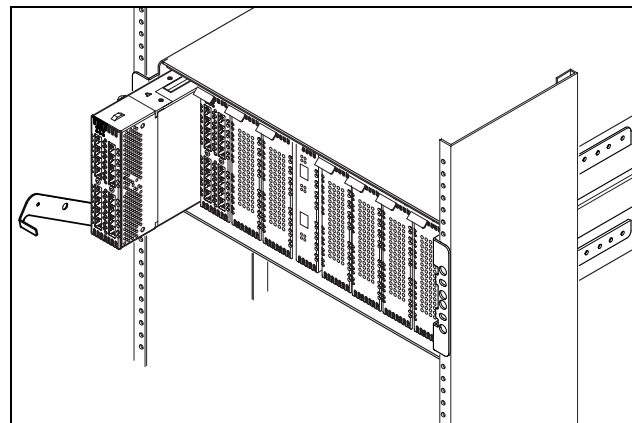


Reinstall I/O Blades

Install the I/O blades and panels in the new chassis matching the slot label on the blade with the chassis slot.

Slide the I/O blade into the slot guide until it makes contact with the midplane connector. Rotate the blade latch upward to lock the I/O blade in place.

Reconnect the Fibre Channel port cables according to their labels.



Reconnect Ethernet and Serial Cables

Reconnect the Ethernet and serial cables to the CPU blades or Maintenance Panel.

Reconnect HyperStack cables to the CPU blades.

Power Up the Switch

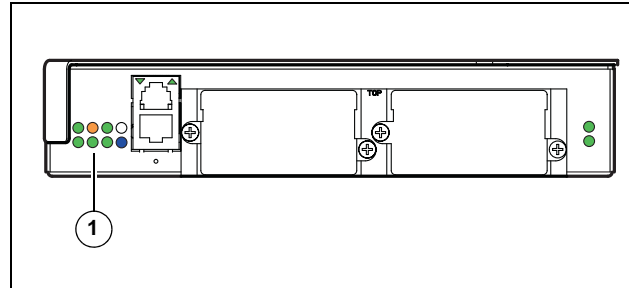
Reconnect power cords to the Power Supply blades. Fasten the restraint bails on the plugs.

Move the On/Off switches on both Power Supply blades to the On position.

Observe Heartbeat LED

Observe the Heartbeat LED on the CPU blade. It should blink once per second.

If the Heartbeat LED is showing a different blink pattern, refer to the *Installation Guide* for diagnostic procedures or contact your authorized maintenance provider.



1. Heartbeat LED

Verify the POST Results

Open a Telnet session and enter the Show Blade command to display the diagnostic status for all blades. You can also use the Switch tab and Blade Info tab of the QuickTools interface.

```
telnet 10.0.0.1
Switch Login: admin
Password: password

SANbox #>show blade
```

| Blade ID | Blade Type | Port Range | Admin State | Oper State | Fault Status | Temp Status | Voltage Status |
|----------|------------|------------|-------------|------------|--------------|-------------|----------------|
| IO0 | FC4G16 | 0-15 | Online | Online | None | Normal | Good |
| IO1 | FC4G16 | 16-31 | Online | Online | None | Normal | Good |
| IO2 | * | * | Online | NotInst | * | * | * |
| IO3 | * | * | Online | NotInst | * | * | * |
| IO4 | * | * | Online | NotInst | * | * | * |
| IO5 | * | * | Online | NotInst | * | * | * |
| IO6 | * | * | Online | NotInst | * | * | * |
| IO7 | * | * | Online | NotInst | * | * | * |
| +CPU0 | CPU | N/A | Online | Online | None | Normal | Good |
| CPU1 | CPU | N/A | Online | Online | None | Normal | Good |
| PS0 | PSFB | N/A | N/A | N/A | None | N/A | N/A |
| PS1 | PSFB | N/A | N/A | N/A | None | N/A | N/A |
| FAN0 | FANFB | N/A | N/A | N/A | None | N/A | N/A |
| FAN1 | FANFB | N/A | N/A | N/A | None | N/A | N/A |
| MP | MP | N/A | N/A | N/A | None | N/A | N/A |

Reinstall License Keys

The old license keys are not valid with the new chassis serial number. Visit www.QLogic.com (**Support/Product Feature Activation/ License Key Activation Center/Replace License Keys**) to obtain new license keys to replace those installed on the original chassis.

You will need the following information:

- Original chassis serial number
- New chassis serial number (Show Version command)
- Your email address

With the new license keys, enter the Feature Add command to install license keys that were installed on the original chassis.

```
SANbox #> admin start
SANbox (admin) #> feature add #-XXXXXXXXXXXXX
License upgrade for HyperStack(tm) capability.
This feature upgrade does NOT require a switch reset.
Do you want to continue with license upgrade procedure?
(y/n): [n] y
Log Msg: [day mon date hh:mm:ss.sss CST year]
[C] [8400.006B] [Switch] [Upgrading License for
HyperStack(tm) capability]
Log Msg: [day mon date hh:mm:ss.sss CST year]
[C] [8400.0047] [Switch] [New licenses are being
installed]
```